Review of Psychology,
2008, Vol. 15, No. 1-2, 17-26 UDC 159.9

Learning strategies and causal attributions in second language learning

IZABELA SORIĆ and JADRANKA ANČIĆ

Although in itself "motivation to learn" is a complex multifaceted construct, according to Dornyei (2001), the picture becomes even more complex when the motivation to learn a foreign/second language is concerned. It seems that a better understanding of the dynamic relationship between learners' use of language learning strategies and the causal attributions they make for their achievement in language learning is necessary in order to direct and improve learners' motivation. The present study was an attempt to analyse some aspects of this relationship. The sample consisted of 236 primary and secondary school students who learn English as a second (foreign) language. First, the students assessed their achievement in English (the mid-term grade) either as success or failure. After that two self-report questionnaires were applied: The Strategy Inventory for Language Learning (Oxford, 1990) and The Causal Attribution Scale (Sorić, 1998). Obtained analyses showed that relationships between learning strategies and causal attributions are very complex, especially in the case of academic failure. Learning strategies were the significant predictors of the causal attributions which both successful and unsuccessful students made for their performance in second language learning. The patterns of these relationships, however, are quite different for successful and unsuccessful students.

Key words: second language learning, learning strategies, causal attributions, academic achievement

Although in itself "motivation to learn" is a complex multifaceted construct, according to Dornyei (2001), the picture becomes even more complex when the motivation to learn a foreign/second language (L2) is concerned since L2 is a "learnable" school subject as well as socially and culturally bound (it requires the integration of elements of the L2 culture into student's life space). In a similar manner Gardner (1979) points out that in the second language acquisition the student is faced with the task of not simply learning new information which is part of his own culture but rather with the task of acquiring symbolic elements of a different ethno linguistic community. Thus, many studies have recently looked into a number of personal, social and contextual variables which may be motivational determinants of second language acquisition.

In the past few decades researchers have identified many factors which account for some of the differences in how students learn a second language. The most debatable issue in this context is "How do successful language learners learn?". Investigations into the features of successful language learners attempt to determine what their characteristics are and what procedures they follow. As a result, an active role of the learner in the language learning process has been acknowledged. Rohrkemper and Corno (1988) suggest that the highest cognitive engagement students use to learn is self-regulated learning. Similarly, Baumert, Schnabel, and Lehrke (1998) claim that self-regulated learning is the ability to develop knowledge, skills and attitudes which enhance and facilitate future learning and which can be transferred to other learning situations. Self regulated learning, therefore, entails an integrated use of students' "skill" and "will". (Pintrich & De Groot, 1990). Self-regulation is an interaction of personal, behavioural and environmental triadic processes which are proactively, as well as reactively, adapted for the attainment of personal goals (Zimmerman, 2000). This perspective distinguishes three cyclical phases of self-regulation of learning: a forethought phase, a performance or volitional control phase and a self-reflection phase. The performance (volitional) control phase involves processes that occur during learning and affect attention and action. One of the key factors in this phase of self regulated learning is the students' capability to select, combine and manage learning strategies. Similarly, Garcia (1995) noted that self-regulated learning behaviour was often interpreted in the light of the students' use of learning strategies for the self-regulation of cognition and behaviour.

Oxford (1990) defines learning strategies as "operations used by the learner to aid the acquisition, storage or

Izabela Sorić, Department of Psychology, University of Zadar, Krešimirova obala 2, 23000 Zadar, Croatia. E-mail: isoric@unizd.hr (the address for correspondence);

Jadranka Ančić, Department of English Language and Literature, University of Zadar, Krešimirova obala 2, 23000 Zadar, Croatia. E-mail: jancic@unizd.hr.

retrieval of information". She states that learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations". Generally, learning strategies are specific actions learners use to improve their learning (what they do to learn and what they do to regulate their learning). Research examining the role of learning strategies in academic achievement shows that higher achievers tend to report greater use of all strategies than lower achievers. (Pintrich, 1989; Schiefele & Krapp, 1995; Chye, Walker, & Smith, 1997; Zimmerman, 2001, etc). At least three categories of learning strategies could be differentiated: cognitive strategies, metacognitive strategies and resource management strategies (Pintrich & Schunk, 1996). Cognitive and metacognitive strategies have been rather broadly researched and are recognized as effective ways of learning (Zimmerman, 2001; Pintrich, 2003).

During the past few decades intensive research has been conducted into identifying the strategies learners employ to facilitate their learning. Different data sources including interviews, questionnaires, "think-aloud" procedures, discourse analyses, learner diaries, etc. have been analysed. As a result, an extensive list of learning strategies essential for successful language learning has been compiled. Many researchers in this area have attempted to make taxonomy of the classes of actions (specific learning strategies) which learners use to learn (classifying actions into different categories and labelling these categories). In this way, as Woods (1997) noticed, the term "strategy" in the literature "has come to refer not to exactly what learners do, but to the researchers' generalized categories or classes of things they do". In a similar manner, Oxford (1990) argued that "any existing system of strategies is only a proposal to be tested through practical use and through research...., there is no complete agreement on what exactly strategies are; how many exist; how they should be defined, demarcated and categorised....." Paris and Cunningham (1995) also emphasised that there was no consensus on a single taxonomy of learning strategies. For this reason various taxonomies have been proposed by different authors.

Oxford (1990) developed The Strategy Inventory for Language Learning (SILL), designed to assess learners' existing strategies and covering all the main aspects of learning strategies for language learning. In this taxonomy strategies are divided into two strategy orientations and six strategy groups. The direct learning orientation is divided into three subclasses: memory, cognitive and compensation strategies. The indirect learning orientation involves metacognitive, affective and social strategies. Finally, each of these subclasses can be further subdivided into more specific actions. Direct strategies are linked to learning the language itself (e.g. identification, retention, storage or retrieval of word phrases etc) while indirect strategies are concerned with the general management of learning (strategies for planning, organizing and evaluating, as well as those for regulating emotions, motivation and attitudes). Rausch (2000) argues that Oxford's model outlines a comprehensive, multilevelled and theoretically well-conceived taxonomy which encompass a continuum of language learning strategies.

According to Woods (1997), the above mentioned problem of taxonomy becomes more apparent due to the complexity of strategy use, i.e. taxonomy does not give us an opportunity to understand why a learner uses a particular strategy at a particular time in a particular context. Based on the recognition that there are differences in strategies used by individual students, researchers have made attempts to identify the factors which affect strategy choice and use. Many important factors have been found to relate to the choice and use of language learning strategies, such as learning goals, learners' self-awareness and self-esteem, attitudes, learning experience, learners' beliefs, anxiety, age and gender (Woods, 1997; Oxford & Ehrman, 1995; Schunk, 2001; Pintrich, 2003). It has also been established that the use of language learning strategies is linked to personality type (Merrifield, 1996). The results of such research emphasise the complexity and dynamism in strategy use and it should not be surprising that a number of crucial issues in this area are still open.

In spite of the fact that, according to Dornyei (2001), theoretical significance of causal attributions in language learning motivation has been repeatedly pointed out in the literature, very little research has been done into this area. Weiner (1992) in his attributional theory of motivation and emotion emphasises people's explanations of their experience (achievement) as the main determinants of the way they think, feel and behave. So, he suggests that attribution for success or failure influences emotional reactions and success expectation, which would in turn influence motivation and subsequent performance.

Attribution research has demonstrated that there were so many possible causes of achievement outcomes (low ability, lack of effort, poor strategy, bad luck and so on), but these diverse and manifestly different causes have common characteristics or properties. In order to give his model of causal attributions a more general value in terms of a complete motivation theory of attributions applicable to various motivation domains, Weiner undertook to form a classification scheme or causal taxonomy of these specific causal explanations. In this respect the first step was to discover the differences and similarities of causes and identify the hidden dimensions of causality. Three basic dimensions of causality were identified: locus (internal vs. external causes), stability (stable vs. unstable causes) and controllability (controllable vs. uncontrollable causes). Although some problems related to this scheme still remain unsolved (e.g. can an external cause be controllable or are the suggested dimensions independent), Weiner considers that future research will provide answers to these questions and believes that along with it

some other dimensions of causality will be identified. Generally, for Weiner, causal dimensions are to a certain extent constant, unchangeable, but the location of each and every specific cause along those dimensions is changeable; it varies from person to person and from situation to situation. The theoretical meaning of different causal attributions is consistent with the meaning to the person who is making the causal attribution (Weiner, 1992).

The next, most frequently suggested, causal dimension of globality was introduced by Abramson, Seligman and Teasdale (1978; according to Weiner, 1985.) with the assumption that some causes were situational specific while others were more general. For instance, an individual may attribute his or her failure in mathematics to inferior mathematical ability (specific) or low intelligence (global). The argument supporting the specific-global dimension has been acknowledged by Weiner, but he warns that first, the features of the specific-global dimension cannot be determined in a single empirical study and second, it remains unknown whether this distinction was noted by the subjects themselves or whether it was produced by theoreticians. Therefore, he allows for the possibility that globality might be an essential feature of cause but recommends additional testing before that possibility is fully accepted. As these causal dimensions were derived logically, they underwent empirical tests, most of which confirmed the theoretical assumptions (Russell, McAuley, & Tarico, 1987; Weiner, 1996).

Attributional research efforts have concentrated mainly on two directions: how people come to causal attributions (antecedents of causal attributions) and what effects these attributions have on their future behaviour (consequences of causal attributions). Weiner (1992) also dealt with the psychological consequences of causal attributions and their dimensions, where he mostly studied the relations between causal attributions of achievement and the variations of future success expectancy, as well as the affective reactions and subsequent behaviour. A number of studies have shown that the greatest motivational learning problems are associated with the students' attributions of their failure to internal, stable and uncontrollable causes (such as low ability). In such cases, the students need to be retrained to make internal, unstable and controllable failure attributions (such as insufficient effort). However, diligent but unsuccessful students could feel frustrated and hopeless if they make effort attributions for their failures (Spaulding, 1992). Learners who believe that their success depends almost entirely on effort may begin to doubt their ability (they try as hard as possible but do not succeed). Therefore, some authors suggest that these students should be directed to the cognitive processes or strategies they used while studying rather than to the effort failure attributions. In attribution retraining intervention, students receive motivational feedback describing the contribution of effort, ability and strategy use in successful performance (Dweck, 2000). Thus, they learn to assess their capabilities better and increase their persistence at learning tasks and improve performance.

In the language learning context, theoretical significance of causal attributions can be recognized in the fact that second language acquisition does not often reach the desired level of proficiency despite the amount of expended effort and time. Therefore for most learners language learning is associated with some kind of failure. The type of attributions the learner has made for his failure in second language learning (L2) has important implications for his future motivation to learn (his approach to a subsequent learning task).

Williams and Burden (1999; according to Dornyei, 2001) examined the developmental aspects of casual attributions in L2 context. Ten to twelve-year-old children reported listening and concentration as the main reason for success while older children provided a wider range of attributions such as ability, level of work and influence of others. Dornyei (2001) pointed out that failure which is attributed to stable and uncontrollable factors (such as low ability) hinders future achievement behaviour, whereas failure which is attributed to unstable and controllable factors (such as lack of effort or poor learning strategy) has better implications for future achievement behaviours. In this context the attributional aspect of motivationally effective feedback is crucial. By using effective feedback which promotes internal, unstable and controllable attribution teachers can help students to evaluate their achievements in a positive manner and encourage them to think that they can do better in the future.

As described earlier, learning strategies are proven to play an important role in second language learning. One way of promoting the successful choice and use of learning strategies is by giving students motivational strategy feedback which encourages them to attribute their achievement to sufficient ability and reasonable effort. Such feedback points out what learners do in the process of learning (which strategies they use to accomplish a task) rather than simply placing emphasis on effort.

It seems that a better understanding of the dynamic relationship between learners' use of language learning strategies and the causal attributions they make for their achievement in language learning is necessary in order to direct and improve learners' motivation. The present study is an attempt to analyse some aspects of this relationship by addressing the following research issues:

1. To investigate differences in the use of learning strategies and in causal attributions for attained achievement between younger and older language learners as well as between successful and unsuccessful language learners.

2. To examine to what extent the used learning strategies predict the causal attributions for the language learning outcomes.

METHOD

Sample

The sample consisted of 236 primary and secondary school students who learn English as a second (foreign) language (92 students of seventh and eight grade of primary school and 144 students of first and second grade of secondary (grammar) school).

Instruments

Student's subjective assessment of their achievement. First, the students assessed their achievement in English (the mid-term grade) either as success or failure. We believed that each student's subjective assessment of their achievement was more important than the actual grade itself since in reality the same grade may be experienced as success by a bad student and as failure by a good student. It is the perception of our own achievement as success or failure that the causal attributions we make for that achievement depend on and, thereby, all the cognitive expectations, emotional and behavioural consequences of such attributions. For this reason we made a decision to use the students' subjective assessment of their own achievement as a measure of their successfulness in second language learning rather than the objective grade.

Strategy Inventory for Language Learning (SILL). Rebecca Oxford's Strategy Inventory for Language Learning (SILL) is designed to investigate strategies used in learning English as a foreign language (Oxford, 1990). SILL consists of 56 items. The students had to indicate on a five-point Likert scale to what extent they used the learning strategies included in the questionnaire. In present study a Croatian adaptation of this questionnaire was used (Ančić, 2003). The original SILL questionnaire was translated by three independent translators and the best version (reached by their consensus) was then administrated to the sample of 225 primary and secondary school students. The six factor hypothetical structure (*Remembering more effectively*, *Using all your mental processes*, *Compensating for missing knowledge*, *Organizing and evaluating your learning, Managing your emotions* and *Learning with others*) was tested. When the Croatian results were compared to those obtained by Oxford (1990) with her original SILL questionnaire, it was revealed that the content significantly overlapped in the first four factors. The majority of our factors comprised the same items as the original factors, with only a few items "being transferred" to another factor due to a somewhat different connotation those items had when translated into Croatian. The biggest difference was in the fifth factor of the Croatian SILL questionnaire, which is actually a combination of the factors five and six of the original questionnaire. (*Learning with others* and *Managing your emotions*). The explanation is probably in the very content of the items as most items on the subscale *Learning with others* actually mean requiring assistance from those who are better in English. Therefore, it is not surprising that these items should combine with those referring to managing negative emotions which invariably accompany failure in learning English (fear, tension etc). *Learning with others* may be partly a strategy for managing emotions so that negative emotions could be shared and overcome with the help of others. On the basis of the obtained results five subscales were formed, which give five different strategies for learning English (for details see Ančić, 2003).

According to Ančić (2003) the structure of the learning strategies in the translated and adapted questionnaire bears a great similarity to the original SILL questionnaire, although the samples come from a different cultural milieu. In our study Cronbach's alpha reliability coefficients for five subscales were tested and the values obtained were acceptably high as follows:

Remembering more effectively (9 items; e.g. I use rhymes to remember new English words) – Cronbach alpha .77;

Using all your mental processes (11 items; e.g. I use the English words I know in different ways) - Cronbach alpha .80;

Compensating for missing knowledge (5 items; e.g. To understand unfamiliar English words, I make guesses) - Cronbach alpha .58;

Organizing and evaluating your knowledge (12 items; e.g. I try to find as many ways as I can to use my English) - Cronbach alpha .86;

Managing your emotions/Learning with others (9 items, e.g. If I do not understand something in English, I ask the other person to slow down or say it again) - Cronbach alpha .81;

A slightly lower reliability coefficient for the subscale *Compensation for missing knowledge* is not surprising regarding the small number of items on this subscale. To obtain overall scores on these learning strategies subscales, ratings were averaged for all items on each subscale.

The Causal Attribution Scale (CAS). The Causal Attribution Scale (CAS) (Sorić, 1998) was administrated to assess the causal attributions students used to interpret their achievement in second language learning. The students were first asked to indicate the most important reason for their achievement in language learning (operationalized as the final mid-term grade in English) and then to rate that particular reason along the causal dimensions of internality, stability and globality. Ratings on a 7-point bipolar scale (from 1 to 7) reflected the extent to which the subjects believed the cause exhibited these dimensional properties (e.g. "This cause is external to me"). Each causal dimension (locus, stability, and globality) was measured by a three items subscale. Cronbach alpha reliability coefficients for these subscales were as follows: locus .70, stability .70, and

globality .62. Slightly lower reliability coefficients for these subscales are not surprising given the small number (only three) of items in each subscale. In addition, in previous research in this field reliability coefficients of .60 have been used as an acceptable level of internal consistency (Hanrahan, Grove, & Hattie, 1989). Therefore, it was concluded that these subscales were reliable enough, although only for research purposes of the present study.

Procedure

Student's assessment of their achievement in L2 was filled out first. After that the students filled in two self-report questionnaires: The Strategy Inventory for Language Learning (Oxford, 1990) and The Causal Attribution Scale (Sorić, 1998). The questionnaires were administered to the students during an English class.

RESULTS AND DISCUSSION

A two-way analysis of variance was applied to test whether there was any difference between younger (primary school) and older (secondary school) students, and between successful and unsuccessful students concerning the use of learning strategies and the causal achievement attribution in second language learning (Table 1 and Table 1A).

Table 1A
Means (*M*) and standard deviations (*SD*) of examined variables for primary school students and secondary school students, as well as for successful and unsuccessful students, separately

	Age				Perception of successfulness			
	Younger (*n*=92)		Older (*n*=144)		Successful (*n*=117)		Unsuccessful (*n*=119)	
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Managing emotions / Learning with others	3.42	0.75	2.96	0.78	3.20	0.80	3.09	0.80
Organizing and evaluating	3.50	0.73	3.14	0.72	3.38	0.73	3.18	0.74
Compensating for missing knowledge	2.94	0.78	3.19	0.70	3.13	0.76	3.05	0.72
Using all mental processes	3.47	0.68	3.34	0.71	3.51	0.73	3.28	0.66
Remembering more effectively	2.86	0.65	2.56	0.66	2.74	0.69	2.61	0.65
Stability	4.52	1.75	4.38	1.57	5.11	1.41	3.76	1.58
Internality*	3.06	1.40	3.30	1.61	2.96	1.42	3.45	1.60
Globality	4.36	1.41	4.04	1.58	4.36	1.54	3.97	1.48

Note. *A lower value on the internality subscale means that causal assessment is more internal.

Table 1
Results of ANOVA (age × successfulness) of the examined variables

Variable	Source	*F*	*p*
Managing emotions/ Learning with others	Age	19.40	.001
	Successfulness	0.18	.67
	Interaction	0.05	.82
Organizing and evaluating	Age	11.51	.001
	Successfulness	2.46	.12
	Interaction	0.00	.97
Compensating for missing knowledge	Age	7.34	.007
	Successfulness	1.75	.19
	Interaction	0.26	.61
Using all mental processes	Age	0.94	.33
	Successfulness	5.48	.02
	Interaction	0.08	.77
Remembering more effectively	Age	10.63	.001
	Successfulness	0.96	.33
	Interaction	0.00	.96
Stability	Age	0.15	.70
	Successfulness	48.82	.001
	Interaction	1.70	.19
Internality*	Age	0.70	.40
	Successfulness	4.88	.03
	Interaction	0.25	.62
Globality	Age	1.78	.18
	Successfulness	2.46	.12
	Interaction	0.39	.53

Note. *A lower value on the internality subscale means that causal assessment is more internal.

Performed analysis showed that younger and older students differed significantly regarding the using of learning strategies. Younger students (primary school) reported more use of learning strategies included in subscales *Managing emotions/Learning with others, Organizing and evaluating*, and *Remembering more effectively* than older students (secondary school). On the other side, older students reported more use of learning strategies described as *Compensating for missing knowledge* than younger students. These results could be explained in the light of the finding that older students perceived themselves as less successful language learners than younger students (χ^2=5.37; p<.02). It is possible that older students have used measured learning strategies less than younger (with exception of strategy oriented on compensation for missing knowledge) and that this deficiency resulted in their poorer achievement and perceived unsuccessfulness. In their study, Kostić-Bobanović and Ambrosi-Randić (2008) also found that primary school students report the use of more learning strategies than older grammar school students. In addition, the only group of strategies that was used irrespective of age were compensational strategies (which were consisted of particular strategies similar to strategies included in our *Compensating for missing knowledge* subscale). Authors give possible explanation that students attending secondary school study English less due to the number and verity of subjects that they have.

Furthermore, the results showed that the successful students used the strategies included in the subscale *Using all mental processes* more than the unsuccessful students. The items included in the subscale *Using all mental processes* describe cognitive strategies such as repetition, translation, grouping, note-taking, recombining, auditory representation, using key-word memory techniques, contextualisation, elaboration, and transfer (use of previous knowledge). Oxford divides cognitive strategies into four sets: practising, receiving and sending messages, analysing and reasoning, and creating the structure for input and output. Cognitive strategies involve actions operating directly on the language input to be learned (direct learning orientation). Therefore, it is not surprising that the successful learners reported more use of these types of learning strategies, that is, learning strategies included in the subscale *Using all mental processes*.

Previous research on the role of learning strategies in academic achievement also shows that higher achievers tend to report greater use of cognitive and metacognitive strategies, that is, the use of deeper cognitive processing (Brophy, 1998; Schunk, 1991, 2001). Our results are, therefore, to some extent consistent with the results reported in these studies.

The high and low achievers also differed with regard to the causal attributions for their achievement. The high achievers attributed their outcome to more stable and internal causes than the low achievers. Findings of previous research on the attribution process show that all individuals have a tendency to make biased attributions (Weiner, 1992). Several common attributional biases have been identified. Self-serving or hedonic bias refers to the propensity for individuals to take personal responsibility for successful outcomes (self-enhancing bias). In other words, people are more likely to attribute their success to internal dispositions (e.g. abilities) whereas they attribute failures to other factors (external). Hewstone and Fincham (1996) pointed out the controversy about whether this bias should be explained in cognitive (information-processing) or motivational (need-serving) terms. The cognitive view suggests the explanation that if people intend and expect to succeed, their success can be seen as a result of their efforts, whereas failure occurs despite these efforts. It is then reasonable to accept more responsibility for success than for failure. Similarly, Pintrich and Schunk (1996) in their cognitive explanations hold that most people expect to succeed, strive to succeed, and when they do succeed, they are more likely to recall other instances of success and therefore attribute their current success to internal factors. Motivational explanations suggest that the need to maintain self-esteem (avoid embarrassment, gain public approval, protect sense of self-worth) directly affects the attribution of outcome. However, due to the bidirectional relationship between motivational factors and information processing (one influences the other and vice versa) it appears impossible to choose between these perspectives and resolve the controversy.

Alternatively, this finding about more stable and internal attributions made by successful students can be explained in terms of their greater use of effective learning strategies. It is possible that these students are aware of their learning strategies effectiveness and thus, when they make causal attributions for their successful language achievement, they make inferences about internal and stable causes (e.g. effective learning strategies).

In order to investigate with greater precision the relationship between second language learning strategies and causal attributions for the achievement, a series of multiple stepwise regression analyses (backward method) were made. The intention was to examine to what extent the use of certain strategies was predictive for subsequent causal attributions for achievement (that is, for causal dimensions of internality, stability and globality). As already mentioned, the successful and unsuccessful students differed significantly regarding both the use of learning strategies and the way in which they made attributions about their second language learning achievement. For this reason these analyses were computed separately for each group of students. The last steps of the analyses (where predictors were age category and learning strategies and criterions were causal dimensions) are presented in Tables 2 and 3.

In the case of successful students, it is evident that the use of the *Organizing and evaluating* metacognitive strategy was significant predictor of the subsequent attributions of success to stable and global causes (this learning strategy accounted for 14% of variance in stability and only 4% of variance in globality). Attributing successful performance to internal causes was best predicted by the *Using all mental processes* cognitive strategy (the accounted variance in the criterion was 10%).

The analyses indicate that the more high achievers used the *Organizing and evaluating* strategy the more they perceived the causes of their success as stable and global. A

Table 2
Summary of Regression Analyses with Causal Dimensions as Criterions (last step backwards) for successful students

Criterion	Predictors			beta	*t*	*p*
Stability	Organizing and evaluating			.37	4.26	.001
	R= .37	R^2= .14	$F(1,115)$= 18.17		p<.001	
Globality	Organizing and evaluating			.21	2.28	.05
	R= .21	R^2= .04	$F(1,115)$= 5.20		p<.05	
Internality*	Using all mental processes			-.31	3.48	.001
	R= .31	R^2= .10	$F(1,115)$= 12.11		p<.001	

Note. *A lower value on the internality subscale means that causal assessment is more internal.

likely explanation for this relationship is that the students may have used these metacognitive strategies in the past when they proved effective both in time (stability) and in different situations (globality). Therefore, when assessing the causes of their success, they choose learning strategies which could meet the requirement of being stable and global.

Given that metacognitive strategies are considered to be of crucial importance for successful learning, it appears logical that the students who used them less should assess the causes of their success as less stable and global (e.g. current effort, luck etc.). In other words they probably expect (being aware of the fact that they have not sufficiently developed L2 metacognitive strategies) that the stated cause "will not be a future cause of their success in language learning" or the cause of success in "other learning situations". This explanation proposes awareness of strategies as the most important aspect of successful learning. Oxford (1996) pointed out that a strategy is a conscious action towards achievement of a desired outcome. According to Butler and Winne (1995) self-regulated students are thus aware of their own knowledge, beliefs, motivation and cognitive processing. Metacognitive strategies such as evaluating, monitoring, regulating and organizing help students to modify or adjust their learning goals, re-examine the applied strategies and select more effective tactics. Research in this field has shown a positive relationship between students' levels of self-awareness and self-regulation activities (Butler & Winne, 1995*)*. Similarly, Zimmerman (2001) underlines that knowledge about strategies puts learners in a position to regulate their own learning. That is, knowledge about strategies gives learners better control over information processing. In a similar way, Lapan, Kardash, and Turner (2002) emphasised that self-regulated learners actively apply a variety of learning strategies appropriate to specific learning tasks. In contrast, some research has suggested that monitoring can proceed outside conscious awareness (e.g. readers adjust approaches to a text without explicit awareness of monitoring). Therefore, it seems a plausible explanation that the good learner is actively involved in guided learning and monitoring, and on some occasions learners with high linguistic competence can act in a basically subconscious way (Finkbeiner, 1998).

In addition, the more high achievers utilized the *Using all mental processes* strategy the more they perceived the cause of success to be internal. It is possible that they are aware of the cognitive strategies they used and consider that the credit for selecting and using these strategies goes to them, and as a result the attribution for success to internal causes may be a consequence of such reflections. Furthermore, it is also logical that successful learners who are aware they did not use all strategies or "mental processes" in learning should attribute their achievement to external causes (e.g. luck, help of others, easy exam etc.).

Table 3
Summary of Regression Analyses with Causal Dimensions as Criterions (last step backwards) for unsuccessful students

Criterion	Predictors			beta	*t*	*p*
Stability	Managing emotions / Learning with others			.23	2.07	.05
	Organizing and evaluating			-.42	3.66	.001
	R= .32	R2= .10	$F(2,116)$= 6.74		p<.01	
Globality	Organizing and evaluating			.27	2.56	.01
	Remembering more effectively			-.31	2.89	.01
	R= .28	R2= .08	$F(2,116)$= 4.86		p<.01	
Internality	no significant predictors					

The *Managing emotions/Learning with others* and *Organizing and evaluating strategies* were significant predictors for attributing failure in language learning to stable causes (these two learning strategies together accounted for 10% of variance in criterion). The *Organizing and evaluating strategy* had a negative Beta coefficient indicating that the increased use of this strategy was associated with the perception of failure cause as less stable.

In the case of globality dimension the *Organising and evaluating* and *Remembering more effectively* strategies were significant predictors (together they accounted for 8% of variance in this causal dimension). The increased use of the *Organizing and evaluating* strategy was associated with the perception of failure cause as more global, whereas the increased use of the *Remembering more effectively* strategy was associated with the perception of failure cause as less global (more specific). None of the learning strategies was significantly related to the dimension of internality.

It is obvious that the dynamics of the relationship between the used L2 learning strategies and the causal attributions for the L2 achievement are completely different in students who assess their achievement as failure. The unsuccessful students who utilized the *Managing emotions/Learning with others* strategy and did not use the *Organizing and evaluating* metacognitive strategy assessed the causes of their success as more stable. It appears that the more aware they are of the lack of their metacognitive skills (they report not to monitor their progress or recognise their errors and to be incapable of organizing their learning properly) the more easily they attribute failure to stable causes (they do not expect any change or improvement in these skills). In addition, they are likely to compensate for the lack of metacognitive learning strategies by asking for help (instead of monitoring their errors and progress in acquiring English, they want others to do it).

A somewhat unexpected finding is that the unsuccessful students who used the *Organizing and evaluating (metacognitive)* strategy more and *Remembering more effectively* strategy less will perceive the causes of failure as more glo-

bal. An explanation for this may be that unsuccessful students who use metacognitive strategies (they plan, monitor and regulate their learning) but who do not have sufficiently developed the remembering strategies of new English words (and probably other teaching materials) attribute their failure to global causes. Although they monitor their learning and are aware of errors they make, their efforts nevertheless end in failure. The problems related to remembering strategies may also appear in other domains and it is not surprising therefore that failure in second language learning is attributed to causes which most probably lead to failure in other learning situations, which indicates toward more global causes.

Surprisingly, in the case of unsuccessful students there was no significant predictor for the causal dimension of internality (locus). It is possible that these students are more influenced by some other factors (e.g. motivational beliefs, causal schemas, situational cues etc.) in the causal inference process than by used learning strategies. In addition, possible explanation could be found in the fact that the attribution process is prone to errors and biases, self-enhancing and self-protective motives, hedonic concerns and the inability to process information rationally (Försterling, 2001). Many studies have revealed that individuals tend to attribute their success to internal (dispositional) causes, whereas failure is attributed to external (situational) causes. This self-protective tendency (unsuccessful students perceive causes of their failure as more external) could play a part in our findings.

In general, learning strategies were not strongly related to causal dimensions (they accounted for 4% to 14% variance in causal dimensions). One of possible explanations for these relatively weak relations could be found in present study design. Particularly, self-reports of past strategy use have some methodological constraints (e.g. calibration), and it is necessary to include other methods for measuring learning strategies in the future research (e.g. observations in natural settings, tracing methodology). This issue needs to be more closely investigated in future research attempts. According to present study, relationships between learning strategies and causal attributions are very complex, especially in the case of academic failure. These findings need to be also tested with more complex methodology than applied correlational analyses. Also, the role of teacher and his/her didactic style in encouraging the use of metacognitive and cognitive strategies as well as his/her way of assessing student's language proficiency should be investigated in future research.

As mentioned earlier, some authors suggest that students should be directed to the cognitive processes or strategies they used while studying rather than to the effort or ability failure attributions. So in attribution retraining intervention, students receive motivational feedback describing the contribution of effort, ability and strategy use in successful performance and this type of feedback can help students to evaluate their achievements in a positive manner and to encourage them to think that they can do better in the future. Some recent research has shown that the adoption and transfer of learning strategies are directly related to the attribution system of a person (Vlachou & Buchel, 2000). Some previous research has shown that groups of pupils who received combined attribution and strategy training performed better (Dweck, 2000). The results of the present study have also shown that the use of learning strategies was correlated to attributional beliefs. Learning strategies were the significant predictors of the causal attributions which successful and unsuccessful students made for their performance in second language learning. Therefore, it seems that causal explanations (and in turn their cognitive, emotional and motivational consequences) are influenced by learning strategies. The patterns of these relationships, however, are quite different in these two groups of students.

This finding provides some implications for the organization of efficient attribution training. If we encourage our students to use effective learning strategies, to reflect consciously on what they do and to self-regulate their own processes we could influence their causal beliefs and in turn increase their efforts and persistence in future learning attempts. Of course, the relationships between learning strategies and causal attributions are bidirectional, so attributional training intervention can improve the learners' choice and use of effective learning strategies, too.

Therefore, it seems that our attempt to improve the motivation of second language learners needs to consider both their learning strategies and the causal attributions they made for the achieved language learning performance.

REFERENCES

Ančić, J. (2003). Strategije učenja kao važan faktor u usvajanju stranog jezika [Learning strategies as an Important Factor in Language Acquisition]. In D. Stolac, N. Ivanetić & B. Prichard (Eds.), *Psiholingvistika i kognitivna znanost u hrvatskoj primijenjenoj lingvistici* (pp. 1-8). Zagreb-Rijeka: Graftrade.

Baumert, J., Schnabel, K., & Lehrke, M. (1998). Does interest really matter? In L. Hoffmann, A. Krapp, K.A. Renninger & J. Baumert (Eds.), *Interest and Learning* (pp.327-336). IPN 164. Kiel: Institut fur die Padagogik der Naturwissenschaften.

Brophy, J. (1998). *Motivating Students to Learn*. USA: McGraw-Hill.

Butler, D., & Winne, P. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research, 65(3)*, 245-281.

Chye, S., Walker, R.A., & Smith, I.D. (1997). *Self-Regulated Learning in Tertiary Students: The Role of Culture and Self-Efficacy on Strategy Use and Academic Achievement.* Retrieved December 2, 2008, from Web site: http://www.aare.edu.au./97pap/chyes350.htm.

Corno, L. (1989). Self-regulated learning: A volitional analysis. In B. Zimmerman & D. Schunk (Eds.), *Self-regulated learning and academic achievement* (pp.111-142). New York: Springer-Verlag.

Dornyei, Z. (2001). *Teaching and Researching Motivation*. Harlow, UK: Pearson Education Limited.

Dweck, C. S. (2000). *Self-Theories: Their Role in Motivation, Personality, and Development.* New York: Psychology Press: Taylor and Francis Group.

Finkbeiner, C. (1998). *The promotion of explicit and implicit learning strategies in English instruction: a necessary aim*? Retrieved December 2, 2008, from Erfurt Electronic Studies in English Web site: http://webdoc.gwdg.de/edoc/ia/eese/artic98/finkb/10_98.html.

Försterling, F. (2001). *Attribution: an introduction to theories, research, and applications.* Hove, UK: Psychology Press Ltd.

Garcia, T. (1995). The role of motivational strategies in self-regulated learning. In. P. R. Pintrich (Ed.), *Understanding Self-Regulated Learning: New Directions for Teaching and Learning* (pp. 29-42). San Francisco, CA: Jossey-Bass Inc. Publishers.

Gardner, R. C. (1979). Social psychological aspects of second language acquisition. In H. Giles & R. St. Clair (Eds.), *Language and social psychology* (pp. 193-220). Oxford: Blackwell.

Hanrahan, J. S., Grove, R., & Hattie, J. A. (1989). Development of a questionnaire measure of sport-related attributional style. *International Journal of Sport Psychology, 20,* 114-134.

Hewstone, M., & Fincham, F. (1996). Attribution Theory and Research: Basic Issues and Applications. In M. Hewstone, W. Stroebe & G. M. Stephenson (Eds.), *Introduction to Social Psychology: A European Perspective* (pp. 167-204). Oxford: Blackwell Publishers Ltd.

Kostić-Bobanović, M., & Ambrosi-Randić, N. (2008). Strategije učenja engleskoga kao stranog jezika na različitim obrazovnim stupnjevima [Language Learning Strategies in Different English as a Foreign Language Education Levels]. *Društvena istraživanja, 17(1-2)*, 281-303.

Lapan, R. T., Kardash, C. M., & Turner, S. (2002). Empowering students to become self-regulated learners. *Professional School Counseling, 5,* 257-265.

Merrifield, J. (1996). *Examining the language learning strategies used by French adult learners.* Aston University: Language Studies Unit.

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.

Oxford, R., & Ehrman, M. E. (1995). Adults' Language Learning Strategies in an Intensive Foreign Language Program in the United States. *System, 23(3),* 166-171.

Oxford, R.L. (1996). Employing a questionnaire to assess the use of language learning strategies. *Applied Language Learning*, *7*, 27-47.

Paris, S. G., & Cunningham, A. E. (1995). Children Becoming Students. In D.C. Berliner & R. C. Calfee (Eds.), *Handbook of Educational Psychology* (pp.117-148). USA: Schuster Macmillan.

Pintrich, P. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82,* 33-40.

Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in Education: Theory, Research, and Applications.* Inc. NJ: Prentice-Hall.

Pintrich, P.R. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames & M. L. Maehr (Eds.), *Advances in motivation and achievement: Motivation enhancing environments, Vol. (6),* (pp. 117-160). Greenwich, CT: JAI Press.

Pintrich, P.R. (2003). Motivation and Classroom Learning. In W. M. Reynolds & G. E. Miller (Eds.), *Handbook of Psychology – Educational Psychology (Volume 7)* (pp. 103-122). Haboken, New Jersey: John Wiley & Sons, Inc.

Rausch, A. S. (2000). *Language Learning Strategies Instruction and Language Use Applied to Foreign Language Reading and Writing: A Simplified "Menu" Approach*. Retrieved December 2, from Literacy across cultures (Spring/Summer 4/1) Web site: http://www2.aasa.ac.jp./~dcdycus/LAC2000/rausch.htm.

Rohrkenmper, M. M., & Corno, L. (1988). Success and failure on classroom tasks: Adaptive learning and classroom teaching. *Elementary School Journal*, *88(3),* 297-312.

Russell, D.W., McAuley, E., & Tarico, V. (1987). Measuring causal attributions for success and failure: A comparison of methodologies for assessing causal dimensions. *Journal of Personality and Social Psychology, 52*, 1248-1257.

Schiefele, U., Wild, K.P., & Krapp, A. (1995). Course-specific interest and exstrinsic motivation as predictors of specific learning strategies and course grades. *Paper presented at the 6th EARLI Conference,* August 26 – 31, 1995, Nijmegen, The Netherlands.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26,* 207-231.

Schunk, D. H. (2001). Social Cognitive Theory and Self-Regulated Learning. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives* (pp. 125-153). Mahwah, NJ: Lawrence Erlbaum Association.

Sorić, I. (1998). *A comparison of Weiner's theory of emotions and Lazarus's theory of emotions in the school*

context. Unpublished Ph.D. dissertation. Zagreb, Croatia: Faculty of Philosophy.

Spaulding, C.L. (1992). *Motivation in the classroom*. NY: McGraw-Hill.

Vlachou, M., & Buchel, F. (2000). Metacognition and Attributional Beliefs: Effects on Learning in Pupils with Learning Difficulties. *Paper presented at International Special Education Congress,* 24-28 July 2000, Manchester, UK.

Weiner, B. (1985). An Attributional Theory of Achievement Motivation and Emotion. *Psychological Review, 92(4)*, 548-573.

Weiner, B. (1992). *Human Motivation*. New York: Sage Publications.

Weiner, B. (1996). Target Article: Searching for Order in Social Motivation. *Psychological Inquiry, 7*, 199-216.

Woods, D. (1997). *Decision-Making in Language Learning: A Lens for Examining Learner Strategies*. Retrieved December 2, 2008, from The Language Teacher Online Web site: http://jalt-publications.org/tlt/files/97/oct/woods.html.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp.13-35). San Diego, USA: Academic Press.